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PATENT SPECIFICATION

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465,772

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COMPLETE SPECIFICATION

Improvements in and relating to Jewellery and the Setting of Precious Stones and the like

We, A. GUERIN ET GUERIN FRERES (a body corporate organised under the Laws of France), of 8 rue Buffault, Paris (IX°), France, and JEAN GUERIN and HENRY GUERIN, both French Citizens and both of 8 rue Buffault, Paris (IX°), France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to a method for securing precious stones or the like by setting, and also to the jewels, the settings and the stones produced in accordance with the said method.

According to the method of the present invention, in a setting which comprises partitions for securing a stone or stones, a groove is formed in the internal face of a partition, adjacent to its upper edge, so that a rib or flange remains at the said edge; a groove is also formed in the stone to be secured; the stone is then inserted between partitions, the flange of the partition entering the groove of the stone, and setting is subsequently completed by swaging the metal of the flange into the groove of the stone in such a way that it engages intimately or "mates" with the groove of the stone. The said groove is preferably provided in the back or side of the stone so that its lower edge is overhung by the lateral edge of the stone; as a consequence, the said lateral edge hides the partition and the setting is invisible.

It has been found advantageous to form the grooves only in two opposite sides of the stone, and in the parts of the partitions which co-operate with these sides. This is particularly advantageous in the case of a single band of stones; in this case the transverse partitions arranged substantially at right angles to the lateral partitions confining the band are not grooved and may be thinner since their primary function is that of stiffening webs.

In order to obtain a "pavement" comprising any desired number of bands, the method of the present invention may be used, either with symmetrical or with asymmetrical stones. In the first case a band comprising stones which are provided with grooves in two opposite faces, as described above, will alternate with a band of ungrooved stones having their edges engaging in the grooves in the stones of the adjacent bands, for which purpose the edes of the ungrooved stones must clearly be placed somewhat lower than those of the grooved stones; and the transverse webs joining the partitions enclosing the band of ungrooved stones may advantageously be suitably reduced in height to allow insertion of the ungrooved stones by sliding.

In the second case, each stone may be provided with a groove in one side only and the edge of the opposite side will engage in the groove of a stone of the adjacent band. In this ungrooved side the edge must clearly be set at a slightly lower level than the edge of the grooved side. The back will preferably be arranged with the point offset towards the grooved side, so that the angle of the opposite edge will be more acute.

By way of illustration and in order to facilitate the understanding of the present invention and a manner of performing the same, certain examples of jewels constructed in accordance therewith are described below with reference to the accompanying drawings of which:—

Fig. 1 is a view in elevation, partly in section, showing the setting of a single stone;

Fig. 2 is a view similar to Fig. 1, but taken in a plane at right angles to the plane of Fig. 1;

Fig. 3 is a view in perspective of a setting adapted for receiving a single band of stones;

Fig. 4 is a diagrammatic plan view of a pavement of precious stones;

Fig. 5 is a diagrammatic exploded view in section taken along the line V—V of Fig. 4, with the precious stones shown detached from and above their recesses;

Fig. 6 is a diagrammatic view in partly sectional elevation, of an arrangement somewhat similar to that of Fig. 5 but having asymmetrical stones.

The stone shown in Figs. 1 and 2 is of quadrangular form in plan; between its

[Price 1/-]

table 1 and its back 2 is a bevelled edge 3. Below said edge 3, in two opposite sides of such quadrangle, grooves 4, 5 of substantially triangular section are formed in the back 2.

The apertured base 6 of the setting comprises four vertical partitions 7, 8, 9, 10. In the partition 7 adjacent to the edge 11 is formed a groove 12 in the internal face 13 thus providing a flange 14; the opposite partition 8 is provided with a similar groove thus forming a flange 15.

For the setting operation, one of the flanges, for instance the flange 14, is forced slightly outwards; then the stone is forced into its recess by pushing it in the direction of the arrow 16 until it seats upon the upper edges of the partitions or webs 9, 10. The flanges 14, 15, provided at the edges of the partitions 7, 8, are then sprung into the grooves 4, 5, of the stone. Finally the flanges 14, 15 are swaged into intimate engagement with the slots 5. As will be seen, the edge 3 considerably overhangs the lower edge 17 of each of the grooves 4 and 5, so that it hides the partitions 7, 8. In this way an invisible setting of considerable strength is provided.

Fig. 3 shows diagrammatically a setting for the manufacture of a single band of precious stones. The base 18 of such setting is provided with two main partitions 19, 20, in which are formed grooves and flanges similar to those of the partitions 7 and 8 of Fig. 1; between said partitions 19, 20 are arranged transverse webs 21; said webs are lower and thinner than the main partitions 19. 20. The stones are provided with grooves in their opposite faces, as shown in Fig 1, and are positioned and set as explained with reference to Fig. 1.

A pavement such as that shown in Fig. 4 is built up from a number of bands of stones. In the arrangement illustrated in Fig. 5 the setting comprises groups of partitions 22, 23, 24, 25, similar to the partitions 19, 20 of Fig. 3; in each group, alternate pairs of partitions are connected by transverse web parts 26 similar to part 21, but in the alternating spaces between partitions, e.g. between partitions 22 and 23, the webs such as 27 are lower and V-shaped as shown.

Between the partitions 23, 24, is arranged a band of stones 28, cut as shown in Fig. 1; i.e. the said stones have grooves into which are swaged the flanges, such as 29, thus forming a number of alternate bands. The other stones such as 30, 31, are cut with ungrooved sharp edges 32; which are set at a slightly lower level than the edges 33 of the other two sides. The stones 30, 31 are inserted by sliding between the bands already set, the edges 32 engaging in the vacant spaces left in the grooves of the stones 28 after the swaging of the flanges 29. The lower level of the edges 32 ensures that the tables of all the stones are at the same level.

Finally Fig. 6 shows a pavement obtained in the same way but with asymmetrical stones. Such stones may be cut and mounted as in Fig. 5, but in the particular arrangement shown in Fig. 6, each of the said stones is cut with a groove 34 in one side and in the opposite side an edge 35 at a slightly lower level than the other edges such as 36. Furthermore the back is unsymmetrical, i.e. the point 37 of said back is not on the axis 38 of the stone, but is offset towards the side with the groove 34. By cutting the stone in this way the edge 35 is made somewhat sharper than the other edges and the groove 34 is deepened so that the flange of the partition and the edge of the adjoining stone are more easily engaged in the groove 34. To enable the stones to be assembled as described above all the flanges of the partitions, with the exception of one of the outer flanges, are arranged to face the same way, as shown in Fig. 6.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A method of setting precious stones and the like in a setting comprising partitions for securing the stone or stones, which method comprises forming a groove in the internal face of a partition adjacent to its upper edge so that a rib or flange remains at the said edge, forming a groove in the stone to be secured, inserting the stone between partitions so that the flange of the partition enters the groove of the stone and finally swaging the metal of the flange into the groove of the stone to cause it to engage intimately or "mate" therewith.

2. A method of setting precious stones and the like, according to Claim 1, in which the edge of the stone adjacent the face overhangs the lower edge of the groove of the stone and thereby hides the setting.

3. A method of setting precious stones and the like, according to Claim 1, in which grooves are formed in two sides of the stone and grooves and flanges are provided in the appropriate partitions to cooperate with the grooves of said stone.

4. A method of setting precious stones and the like, according to Claim 1, in which a band of jewellery is built up on two main partitions grooved throughout

their length.

5. A method of setting precious stones and the like, according to Claim 4, in which the main partitions are connected by webs which are lower than the main partitions and are of thinner material.

6. A method of setting precious stones and the like, according to Claim 1, in which a pavement is built up from alternate bands of stones set between grooved partitions and intermediate bands of stones having two ungrooved sharp edges which engage in the grooves of the adjacent bands of stones.

7. A method of setting precious stones, according to Claim 1, in which a pavement is built up from stones having on one side a groove into which the flange of the appropriate partition is swaged and on the opposite side an edge engaging the vacant space in the groove of an adjacent stone.

8. A setting for setting precious stones and the like, according to the method claimed in Claim 1, in which a groove is provided adjacent the upper extremity of a setting partition so that the partition terminates in a flange beyond the said groove.

9. A stone formed in accordance with and adapted for setting by the method claimed in Claim 2, in which an edge of the upper surface of the stone overhangs the lower edge of a groove cut in the stone.

10. A stone formed in accordance with and adapted for setting by the method claimed in Claim 3, in which grooves are formed in two opposite sides of said stone.

11. A setting for setting precious stones and the like according to the method claimed in Claim 3, in which grooves are formed in two opposite partitions.

12. A setting for setting precious stones and the like, according to the method claimed in Claim 1 comprising two parallel main partitions provided with longitudinal grooves on their inner faces and with transverse webs joining said partitions.

13. A setting for setting precious stones and the like, according to the method claimed in Claim 6, comprising main partitions arranged in pairs, the partitions of each pair having grooves formed adjacent the upper extremities of their opposed faces.

14. A stone formed in accordance with and adapted for setting by the method claimed in Claim 6, in which the lower edges of the grooves used for securing the stone are below the level of the remaining edges of the stone.

15. A setting for setting precious stones and the like according to the method claimed in Claim 7, comprising main partitions arranged parallel to each other, a groove being formed in the corresponding face of each partition near its upper extremity so that the flanges formed at the extremities of the said partitions face the same way.

16. A stone formed in accordance with and adapted for setting by the method claimed in Claim 7, in which the edge adapted to engage with a groove in an adjacent stone is below the level of the other edges of the stone.

17. A stone formed in accordance with and adapted for setting by the method claimed in Claim 7, in which the point of the back of the stone is offset towards the side in which the groove is formed.

18. A complete jewel with substantially invisible setting constructed in accordance with the method claimed in any of Claims 1 to 7.

19. A method of setting precious stones and the like as claimed in Claim 1 and substantially as described with reference to any of the examples shown in the drawings.

20. A setting for setting precious stones and the like according to the method claimed in Claim 1 constructed substantially as described with reference to and as shown in any of Figs. 1 and 2, 3, 5 or 6.

21. A precious stone or the like formed in accordance with and adapted for setting by the method claimed in Claim 1 having the form after cutting substantially as shown in any of Figs. 1 and 2, 5 or 6, and described with reference thereto.

22. A complete jewel with substantially invisible setting produced by the method claimed in Claim 1 and substantially as described with reference to and as shown in any of Figs. 1 and 2, 3, 4 and 5 or 4 and 6.

Dated this 14th day of November, 1936.

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Fig_1

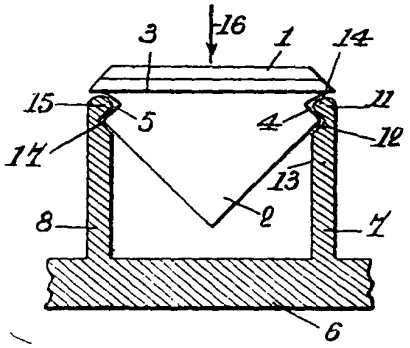


Fig_2

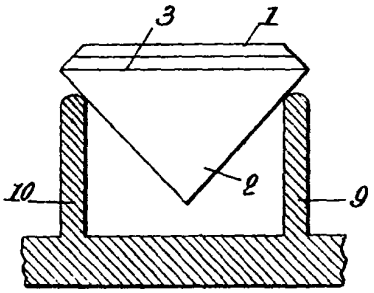


Fig_3

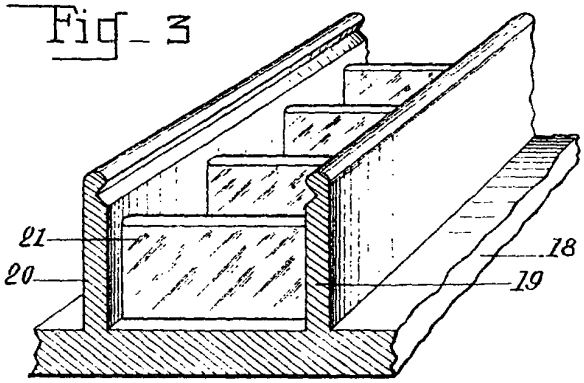


Fig_4

Fig_5

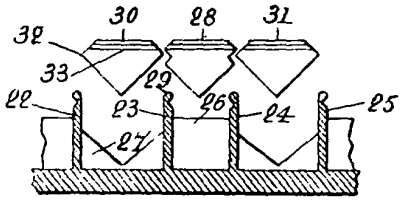


Fig_6

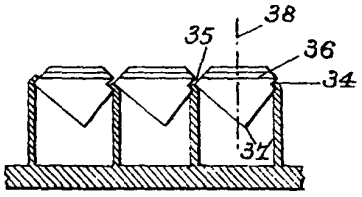


FIG.1

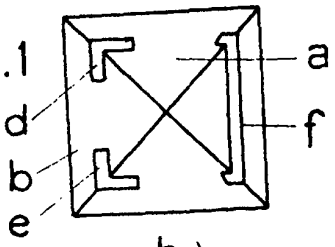


FIG.2

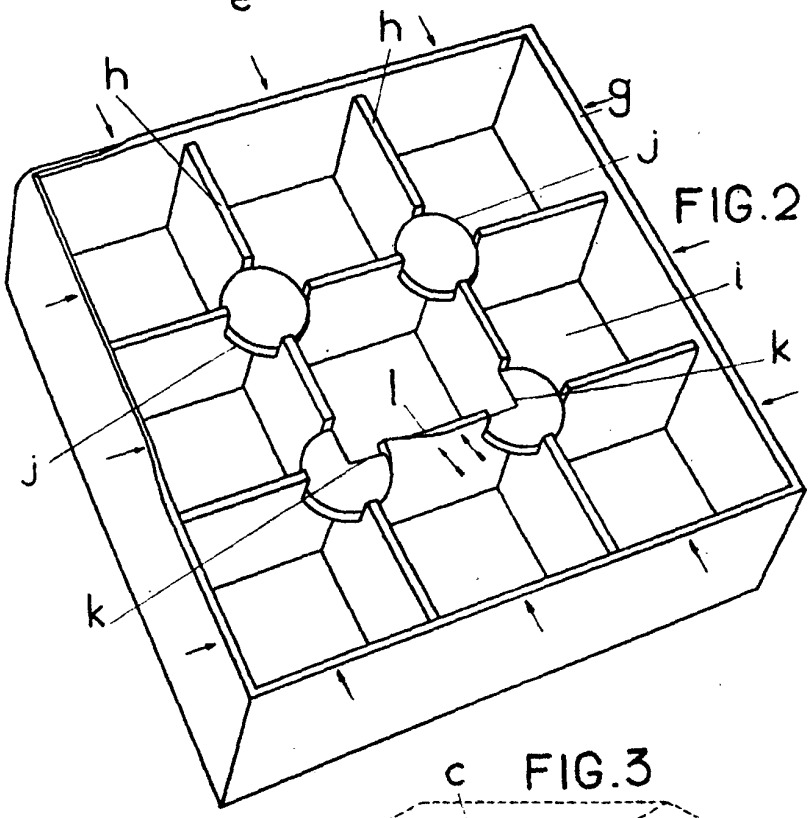


FIG.3

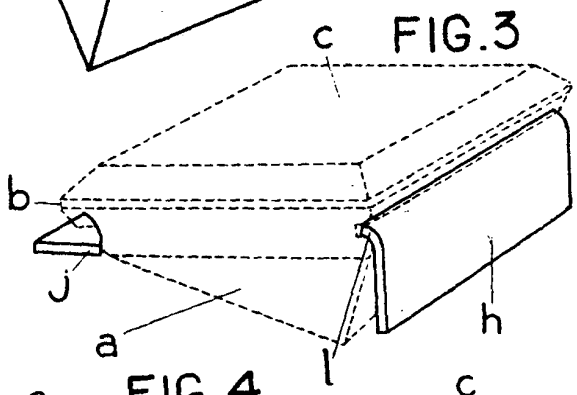


FIG.4

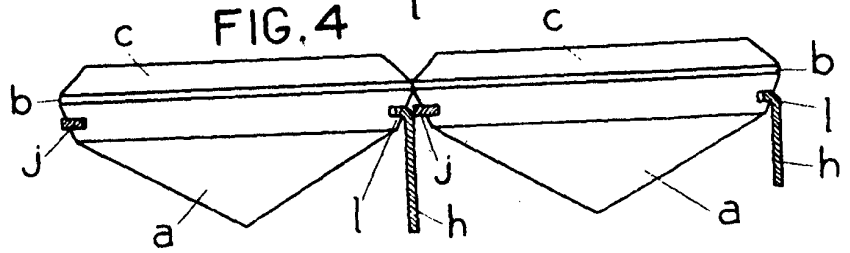
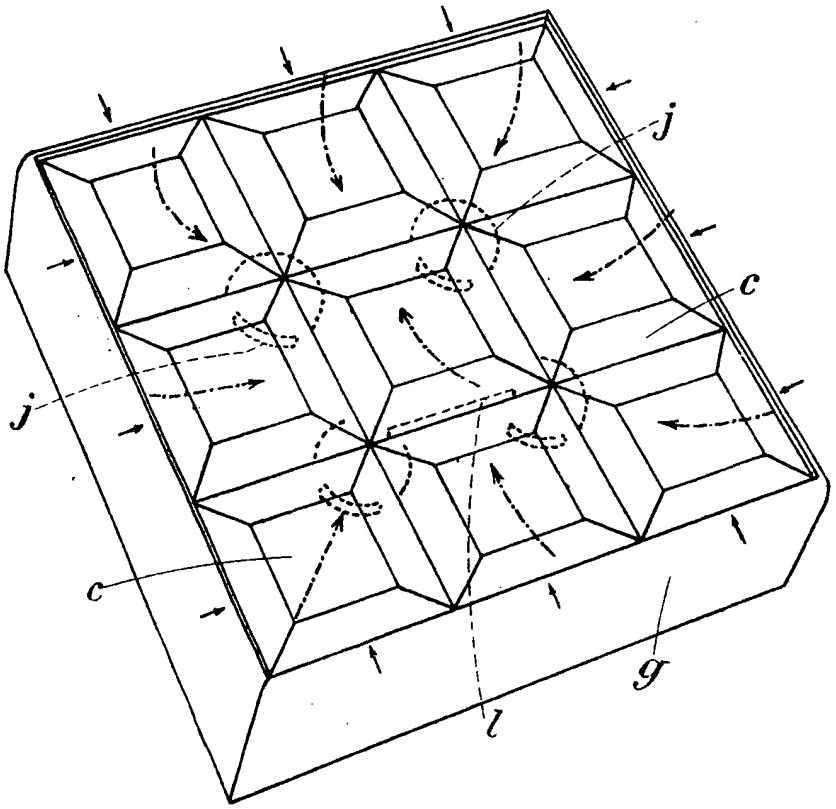


FIG. 5.



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